

United States



of America.

Commonwealth of Massachusetts.

Boston, & S. Suffolk, & S.

of June, in the year of our Lord one thousand eight hundred and Minteen

before me, WILLIAM STEVENSON, Notary Public, by legal authority admitted and sworn, and dwelling in Boston aforesaid, and a Justice of the Leace for the County of Suffolk, personally appeared Jacob Personal and

acknowledged the Instruments of writing . hereunto annexed, by him signed and scaled,

to be his free ach and dud - to with 120 5.

2.3 +4

Testimony whereof, I have hereunto set my Hand, and affixed my Notarial Seal the Day and Year first mentioned.

William Stevenson Notary Public.

O'B this form . Day Sofice ones WILLIAM BIENENEONS Philippy Dulles his level natherity astraited and sovere, and diretting in Eliaof welldhe personally opposed to at the To all People to whom these Prosents shall come of Jacob Perhins of Newbrungport in the Country of Efray and Commonwealth of Majorehusetts Gentleman,

Street Greeting.

Whereas I the said Perlius how lately invented a new and usaful improvement, being a Machine for making Swaw. I hanks; and cortain Letter, Patent in the name of the United Hates were on the twenty second day of March last part made out in due form of law, granting to me the said Perlius and my heir administrators or assigns for the term of formteen years from the said twenty second day of March the full and exclusive right and liberty of making constructing, using, and vending to others to be used, the said improvement; a description whereof is contained in a certain Schedule annexed to the said Letter Patent:

Now Know ye, that I the said facob Perhins, in consideration of Jen thousand Dollars—

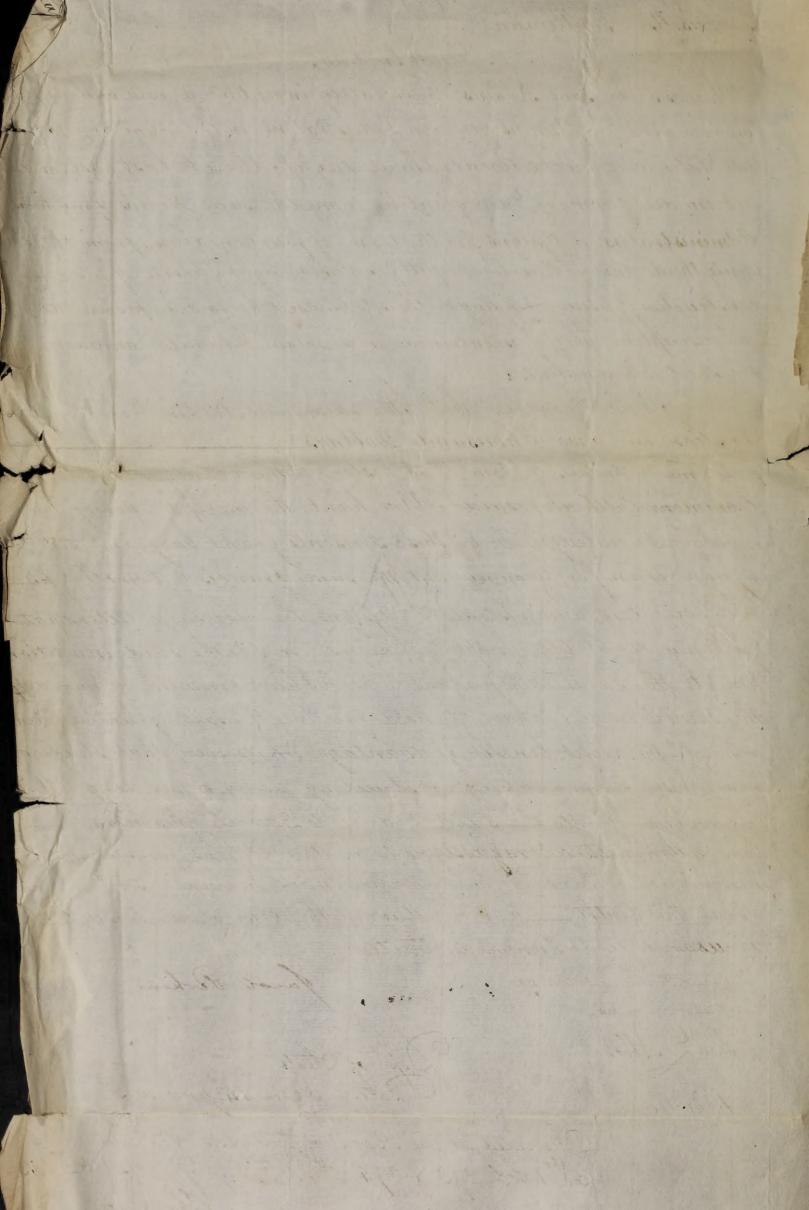
paid me by I vanier & Lowell of or orton in the bounty of
Sufforth and Commonwealth apoveraid Neverhaut, the verift
whereof I do havely acknowledge, Do by these Presents

grant, bargain, sell, assign, transfer and convey, unto the
said I vanier & Lowell and his hair executors administrators
and assign, the asportaid Letters Patent, and all my right, title,
property and interest, in and to the said invention, and in and
to the said Letters Patent which I have herewith dolivered to
the said Lowell: To have and to hold and veceive the said

granted premises, and all the profit benefit and advantage whatsoever, that shall a may avise from making, constructing, using or vanding, the said improvement, unto the said & vancis C. Lowell and his heir executors administrators and afrigues to his and their sole use forevar. In Witness whereof I the said facts Per-Kins have hevenuto set my hand and seal this tenth day of May in the year of our Lord one thousand eight. hundred and thioteen Jacob Perkins Tignes sealed and delivered in presence of us Sami L. Abok M. Rollins_ Dept of State Ratent Opice 14. June 1011 Meconded in the Book of Framsfers of Datent rights \ Nº 1 fol: 392 8393 the 11 day of June 1011-

To all people to whom these presents shall come, I facob Perkins, of Newbury port, in the Country of Efsex, and Commonwealth of Mass sachusetts, Gentleman, end Greeting. Whereas I the said Perkins, have lately invented, a new, and useful improvement, in Pumps, & certain Letters Patent in the name of the U.S. ted States, were on the twenty third day of March last past, made out in due form of Law, granting to me the said Beckins, y my heirs. Administrators, or Asigns, for the term of fourteen years, from the said (twenty third day of March, the full & exclusive right & liberty of making, constructing, using I vending to others, to be used, the said improvement; a description whereof is contained, in a certain Ichedule annexed to the said letters patent: Now Know ye, that I the said Jacob Derkins, in consider eration of Two Thousand Dollars_ paid me by Francis & Lowell of Boston, in the Country of Juffolk, and Commonmealth aforesaids, Merchant, the receipt whereof I do hereby acknowledge, Do by these Present's grant, bargain, sell, assign, transfer, yeonvey, unto the said Francis 6. Lowell this heirs, executors, administrators, yassigns, the aforesaid letters pater I all my right, title, property, finterest, in & to the said invention In I to the said letters patent, which I have herewith delivered to the said Lowell: To have y to hold freceive the said granted prem ises, Vall the profit, benefit, Jadvantage whatsoever, that shall, or may arise, from making, constructing, using, or vending, the so improvement, unto the said Francis b. Lowell, this heirs, exect tors, administrators yassigns, to his 4their sole use forever. In mit, ness whereof, I the said facob Perkins have hereunto set my hands I seal this centh immeday of allay, in the year of our Lords, One thousand eight hundred, thirteen. Jacob Perkins Tigned, Lealed, & Delivered, in presence of us-Dept of State

Patient Office 14 June 1013 Saw L. Abbok W. Holling. Necorded in the Book of transfers of Latent rights
No 1 for 999 & 394 the 11. day of fune of 1013



To all People, to whom these Presents, shall come, I Jacob Perkins, of Newburyt port, in the country of Efsex of commonwealth of Massachusells, Gentleman, Send Greeting. Mhouas, of the said Perkins, have lately invented a new of useful improvement, in the Fine Engine; of certain letters patent, in the name of the United States, were on the twenty thirds day of March last past made out in due form of law, granting to me the saids Terkins, I my heirs, administrators, or assigns, for the term of fourteen years from the said twenty third day of March, the full of eachusive right of liberty of making, constru ting, using I vending to others to be used, the said improvement; a description whereof is contained in a certain schedule annexed to the said letters patent. Now Know ye, that I the said Jacob Perkins, in consideration of Two. thous. Suffolk of commonwealth aforesaids, ellerchant, the receipt whereof I do hereby, acknowled Do by these Presents, grant, bargain, sell, assign transfer I convey unto the said Francis b. Lowell I his heirs, executors, administrators I assigns, the aforesaid letters patent of all my night, title, property of interest, in of to the said invention of in of to the said letters patent, which I have herewith delivered to the said Lowell: To have of to hold I necesse the said granted premises, I all the profit benefit Jadvantage whatsoever, that sha, or may arise from making, constructing, using, or vending, the said improvemen unto the said Francis C. Lowell, I his heirs, executors, administrators Japigns, to his of their sole use forever. In mitness whereof I the said Jacob Perkins have hereunto set my hand & seal this tenth in day of May in the year of our Lords, Que Thousand, eight hundred & thirteen. Signed, Sealed, & delivered . Jacob Perkins in Presence of us. in Presence of us. Sam L. Abbot Dept of State

Patent Ofice 14 # Jime 1013 M. Rollins Recorded in the Book of transfers of Patents
Phights S. 1 for 394 4395 the 11 th day of
June 10/13

Geo: Lyon

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Do all persons to whom these presents, shall come; of fueob Perkins, Cowlingport; in the Country of Great, & bomm onwealth, of Massachusetts, Gentle Greeting, Whereas I the said Perkins, have lately invented a chew Juseful imply being a routh lock for Ban his; and certain letters patent, in the name of the Unit Luts were on the liventy thirds day of ellarch last past made out in due form of too granting to me the said Perkins, I my heirs, administrators, or Usigns, for the lers of fourteen years, from the suid twenty third day of March the full yexclusive right, liberty of making, constructing, using, wending to others to be used, the said improvemen a description whereof is contained in a certain schewile annexed to the said let lers putent: e You Know Je, that I, the said Jucob Perkins in consideration by Francis 6. Lowell of Boston, in the County of Suffolk, recommonwealth and ellere hant, the receipt whereof I do hereby acknowledge, To by these presents, of buryain sell, assign, transfer, & convey, unto the said Francis C. Lowel heirs executors, all ministrators, bassigns, the aforesaid Letters patent, & all. right, title, properly . Vinterest, in glo the said envention , & in & lo the said letter. palent, which I have herewith delivered to the said Lionell: To have I to hold receive the suit granted vie mises of all the profit, benefit, I advantage whatsoever that shall, or may arise from making, constructing, using, or vending the sai improvement, unto the suid Francis 6. Lowell fais heirs executors, administrate Jassians, to his & their sole use forever son wilness whereof I the said facol Porkins have here undo set my hunder seal this tenth maday of ellas in the year of our Lords, In Thousand, eight hundreds, Ithirteen. Signed. Vealed & delivereus Jacob Perkins in presence of uj. Sawa L. Abbot Dept of State

Patent Office 14 th June 101 Recorded in the Book of Fransfers of June 11000 Geo. Gon



The Unite & States of America,

To all to whom these letters Fateni- shall come.

Mureas Jacob Ferkins a celvien of the United States hath alleged that he has invented a new and weful un sprovement on Pumps which improvement he Males has not been known or used before his applicalion; hath made cath that he does verily, believe that he is the true inventes or discoverer of the said improvement; hath haid into the treaming of the Uni lid Flate, the sum of Thirty dollars, delivered a receifed for the same and presented a feetilion to the Secretary of State signifying a desire of oblaining an exelusive property in the said improvement and praying, that a palent-may be granted for that purpose Mere are therefore to grant according to Law to the Daid Sacol Perkins his heirs administrators or afsigns for the term of fourteen years from the twenty there day of March 1013 the full and exclusive ugh



and liberty of making constructing wing and contin to others to be used the said improvement a descrip low whereof is given in the words of the real rock Cortain himself in the schedule herde armerced and is made a frast of these presents. In thetenous, whereof those coursed then letter to be mude Patent and the real of the United States to be hereunto arenexed. Juin under my hand at the City of lour hinglow this twenty there day of 1 . S. March in the year of our Ford one thou Sand eight hundred and therteen and of the Independence of the United Hales of america the thirty swenth, James Maderou. (Sy the Frenchent Surner M ouroe Secretary of Hale lity of washingtow, to wit, I do hereby, Cirlefy, that the foregoing Litter Fatent were delivered to me on the twenty third day of murch in the year of our Lord one thousand ugh hundred and thirteen to be examined; that I have examined the same and find them conformable to Law: and Ido hereby return the same to the Le exclarge of State within fifteen days from the date aforeraid, to wit on this twenty third day of march tio the year oforer aid The reflectate referred to on these letters Patent and me Hung, part of the varie containing a description in the words of the raid Jucob Perting himself of his emprovements in Pumps. The sample squase pump the principal Bown is mude out of Common bounds. Hather and nacts. The lube or trank which is square is first begun, by having four Mrips of Bound properly, planed and joinled and then native to getter.



Refore the first covering of boards is neited on lar halling should completely cover the low rider where the fourts are non. then another covering should be nached over the trank observing at the same lime to break joints' unld the brunk is sufficiently strong to withstand the pressure of the water, three thecknopies well answer, for the sump of & inches diameter and five Muckreper for one of eight inches dianules. The lower Done w formed of four pieces of board leve of them quan and of a sext refleciently las is to extend from one come of the pump to the other, having oblown percer of teather of about three times the length of the quare pieces of board placed between them when they are formly nached logether at the same line leaving 2/3 of the leather to need on reperalely the other los pucces of board which form the values and joints and are of woceles briangular form. This Boxi when pla ced reducally in the purish, will when the beangular value ofeens form a light-box, by falling into the angles of the hump which matter a bearing for the valves, each valve having to open but about 20 degrees well work quicker than common values The upper Box the Follow rad of which is made of a strep of board sufficiently well at the bottom, to extend from one corner of the pumpe to the other has also an erceller treangular valve on each sede and lefts the column of water in the same way that the lower box supports it. The Cyphon fumpe is made in the following way. The body of this pump is made in the way that common ships pumps are exciteting that the lower box her quite at the tottom of the pump the upper box playing as near as profieble. so that the cy hon may enter the pump as near above the upper box as it will work . The cychon which enters way two feel from the bottom of the pumpe and is of the sume bore reses parallel with the pump with the pump until it meets the dick where it forms a

right angle and with a gentle curve follows down

the unide of the ship where the water is delivered below the surface of the occase. The effect is that after the water has been raised sufficiently high to charge the Cyphon, the water will fall in the pump until it is level with the surface of the ocean. of Course it will be necessary to raise the water but a little higher in the fump than the outside surface to make it work and should the wefrel be under way the prepure will be partly taken off from the end of the short leg-of the cyfileon and the water will fall in the pump; in proportion to the velocity with which the repet sails In some cares the water will only be raised from 2 to 3 feet in the pump when without the cylchon it would be necessary to raise it from 15 to 20 feet. Witnesper bulliam Thornton ;

Jeo; Lyon & Itme Espery and Elk,

Heath multi of the Ship Union in

Glacining of Jacob Barwell Breeting.

YOU are hereby required, in the name of the President of the United States,

o make your appearance before the Judge of our terrust Court, to be holden at

Buth within and for the District of Massachusetts, on the twenty First
to give evidence of what you know relating to

Day of many current - t an Action or Plea of the case -

then and there to be heard and tried betwixt

Monstow Lawis Defend

Hereof fail not, as you will answer your default under the Pains and Penalty in the Law in that behalf made and provided. Dated at Provider the twontiett day of May _____, in the year of our Lord 18 /7

nollLaves CLERK.

Suffer the Boston May 20, 1849

" have Summoned the thinking has been as swithing and been as swithing and been as swithing and general from them seems from them saying as given from them seems from them attends an conference of the man seems of the them attends an conference of the them attends an conference of the them them attends an conference of the them the saying as a see the them the seems of the them in the seems of the them the seems of the them in the seems of the them the seems of the hamed summoned the within as within directed by reading the making the making the making within the present the first in heard for attendance of the standard for a stand 8. J. B. Coly 75 houses 50. In Bayley Bus Heall 75 8275

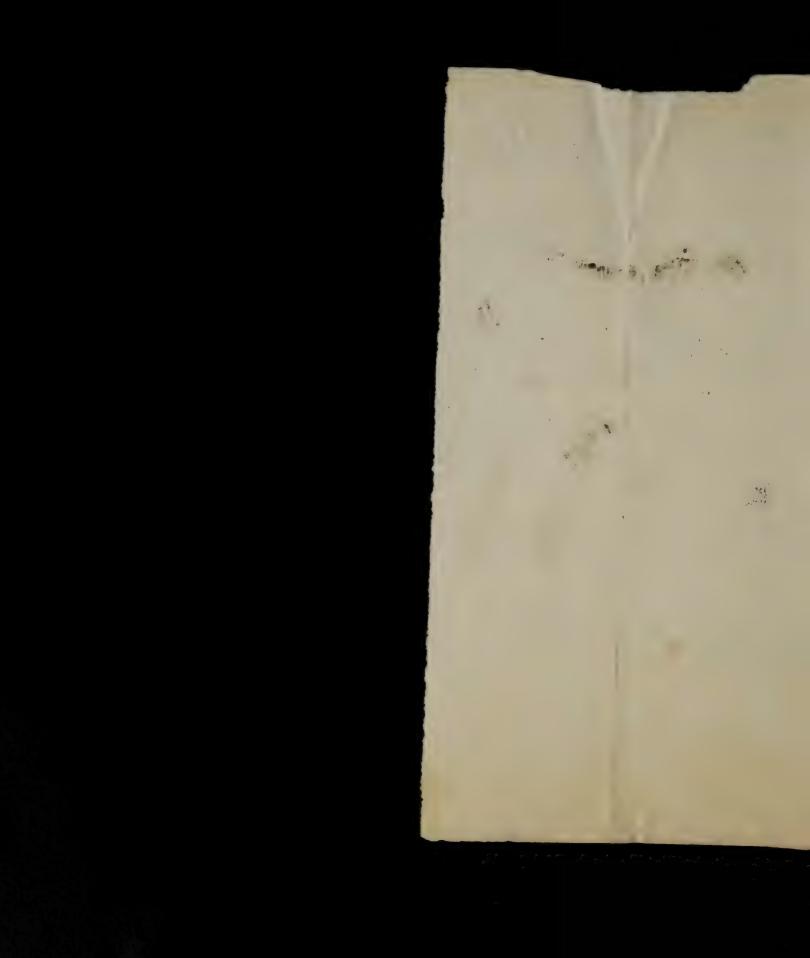
To Samuel Hills mariner - William Mayer manner - Benjames Manding - - there to the - William Fester of This ca aus Daniel Adams - Stephen Stellow - Samuel Stebbins - Bonjamin Thomas Begnall - allan Polland YOU are hereby required, in the name of the PRESIDENT OF THE UNITED STATES, to make your appearance before the Judgesof our Ground Court, to be holden at Borion. within and for the District of Massachusetts, on the twenty furt Day of may current to give evidence of what you know relating to an Action or Plea of the case. then and there to be heard and tried betwixt Trancis & Lowell fift. and Monston Lewis Defend Hereof fail not, as you will answer your default under the Pains and Penalty in the Law in that behalf made and provided. Dated at Borlin to twentieth day of may -, in the year of our Lord 18/7_ offitary CLERK.

Suffolk for Boston May 21. 1817 J. have notified the within named Samuel Hills, William Man, Benjamin Manning, Charles Blake, William Foster in William astin Daniel Adams, Stephen Shelton, Samuel Stephen, Benjamin Rich Thomas Bignate, Man Tollock and Henry Fowle to appear 1 within directed by reading to them (and, leaving a true and attested copy of 1. precept at there usual places of at fees \$6.30 -- Gall Dyst Earl pard - 6-00 to Fowle & Munning - 1-50 \$ 7-50



Curren 21-20.13. Jan hunan 22 dess home. mastine min Don Wom Mm Fashu B a Jollann Shellon

Circ- Collay J 1018 Lowell Left Lewis Defot Defendto costs alty fee - - -2,50 Whiteses as per sertificates 25 Days at 1,25altender 8 -2,64 1.68 3 Subfernas -11,50 Lewin of de Keron 5-2 00 2.00 Losts taxable to High. Entry Swearing 5 Witness. 0.50 7.01



Gire Court May Form 1817. The the undersynes - summones as witnesses to the live Court of the Minde States May Form 1817 , in to action of Francis & Lowell again; t- Winstow Lowis do hereby certify that we attended the number of ways respectively set against our numes and travelled to number of miles also restrictively set of ainstour names -San Hile Vanuel 19 Eds Mr Forto hi Thos Baynall Wiriam Austin Duniel Adams Mechael Hopkins Henry Fowle Atlan Pollock wm Pulchie Nem Heath -Louob Coswell Robert Knop Bonjemin Alegnning 1 BIMM! Many Olich Sam Felding Thep " Shelton The Corrons. Charles Blake

cost se. Lowelle 100 de deunis Circuit Court of the United States - May. 1817 Lowell v Lewis -

And now the said Sewis comes toefunds to. when to. I says he is not quilty feter fremis as above water in manner of form as the Plf. has in his declaration alonged against him I thing puts him tely upon the country by his accorning of this accorning

and the All. likewice by Jugorhan

a Historian



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May 22 1817

Allers Worken Sters & Thering

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Sopries - 1-50

Bando To Charles Blake - Billiam Austin Lamuel B Edes- ABorton - - Breeting.

YOU are hereby required, in the name of the PRESIDENT OF THE UNITED STATES, to make your appearance before the Judge of our connect Court, to be holden at within and for the District of Massachusetts, on the twenty second so an Action or Please to Sale.

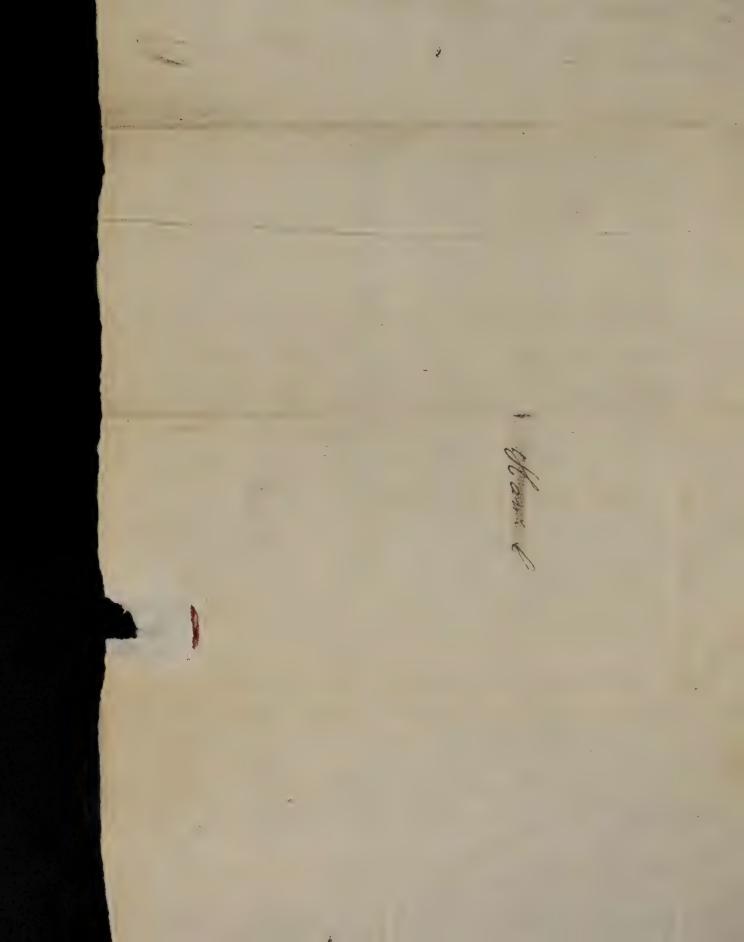
then and there to be heard and tried betwixt

Moneis Lewis Defort

Hereof fail not, as you will answer your default under the Pains and Penalty in the Law in that behalf made and provided. Dated at Bestin the threndy first day of May in the year of our Lord 18/7,

moll Faur CLERK.

Batton May 22. 1819 The jury find that the plaintif has not sulforted his declaration or sor farth in the writ - - and is not entitle to any Jovannich Prabady Form The Jung find that the Definsant is not July in manner of form as the Stiff hath dulard against Jovamich Perbacky Former Affinned 23. May 1817 All Molenians Ch.



MA^SACHUSETTS The President of the United States of America PICT, ss. To the MARSHAL of our District of MASSACHUSETS, or his Deputy--- GREETING. TTE command you to attach the goods or estate of Wins low Lewis of Borton wo in sure Fritant Thepchandler in our District of Massachuto the value of Three Thousance dollars, and for want thereof to take the body of the said Winslow (if he may be found in your District) and hein safely keep, so that you have hem before our judges of our Circuit Court of said United States for the first circuit next to be holden at Boston, within and for our said District of Massachusetts, on the fiftue of day of mayness : Then and there, in our said court, to answer unto Francis C. Lowell of Sice north merehant in a pleasty cure for that where at by artain letters patent, duly ifweel in the name of the United State, of america by the Secretary rearing take by the Presidents of the United States a dutice the twenty thend day of much to ughter hundre Litherteen, Lin Gores to be produced was granted to the chief reliens his heir Lafrigues for the shace of fourteen years from the wie Date the full Londine right Sliberty of making constructly weing and vending to them to be used a new Leveful improvement a pumpe agreeby to a statute of the Congress of the remittee states much Speeped the be 21 day of February and 1798 intellive an act to promote the Progress of the weefulf ants Lt repeal the art hereto fore made for that perhore", now the said Municips says that Lower was with day of many Domini 1813 by his deget of that death duly executive of recovere in the applied the Secretary of State of the said Lower solle assigned dollars which shall then and there be made 24. Thousand dollars, which shall then and there be made Lawrell his heris enther due damages. And have you there this writ, with your doings therein. buch Story Esq.; at Boston, the fofteenth letting patent Latie in the year of our Lord, one thousand eight hundred and ferenteen dentement in the Clerk.

Lowelle 4 Lewis ____ linites Heles of America Comment they a shorteness Tattacked a Butter to burlandy of he within asmed Cerris; I delicing the Mending Bruse in humans, Muchy full Days before to time apprint in lolding of the James Pance of Lifty marrhat Aris 121 3.57 Myngorheur ato.

center, and untouters Lefigers the aforesund e his the said Paleins right title proberty saise new desseful invention disinfravent. you the said of the Francis dul s contriving in this behalf to injure her the laise Levell deprine him of the efigue themet of soice patent of invention, after hands ving on the fait day of tune but fuch danderme other days & thing between the smill fuit day of the hour attending of the few mithens the wind comments of the first with die make device here I sell sell sell sell the prompt upon the prompts her provener much I cure as afores and by said better, patent to since Perhing h Whin apigus as afermed to s? Levell, contrary to the forme of the Statute ofers of and



And also for that whereas one Jacob Perkins before und at the time of ipping the lever parent here after mentioned had discovered and invented a new and a signiimprovement in pumps which is described and set forth in the said letters parent har from and whereas by certain letters parent duly which in The name of the United Frates of America by the Swinetary of State bearing time by the Orisident of the United States and dated the twenty there day of March D- eighteen hundred and thirteen and in court to the produced was granted to one said facot Pertiens his heirs and apigors for the share of fourteen years from the said date the full and enclu seve right and liberty of making constructing using and wending to others to be used a new and useful in provement in purely agreeably to a sexule of the tongress of the united searce made and paped the wenty first day of orbinary # 1708 entitled "an act to promote the progress of the useful ants and to repeal the act host ofone made for that just hose " and said Per here afterwards vis on the terth day of May A. 1813 he his area of that nate only enervied and mitorded in the office of the secretary of state and in Court to be howard grated languined sola and assigned and Set over to said Lordell. his hiers executions administratons and afregues the aforesaid letters hater and his the said Perkins' right, title, property and interest in the said iew. and useful intention and inprovements yet the Sound Lewis in no wise ignorant of the premises but contriding on this behalf to injure him the said Lovell and deprice his of the lampit of said parent and invention and the apignment Thereof afternoon de air, on the first day of June last hast and on divers other days and times between the sand first day I fine and the day of the purchase of this writ, did, with all the corrent of the said Pertines or said Lowell or their afrigues make device and sell airers vir two hundreduces and fistons constructed upon the principle of the improvement and invention of said Perkins secured to him by said letters parent as aforesaid and contrary to the sound of the statute of in well come made sprended

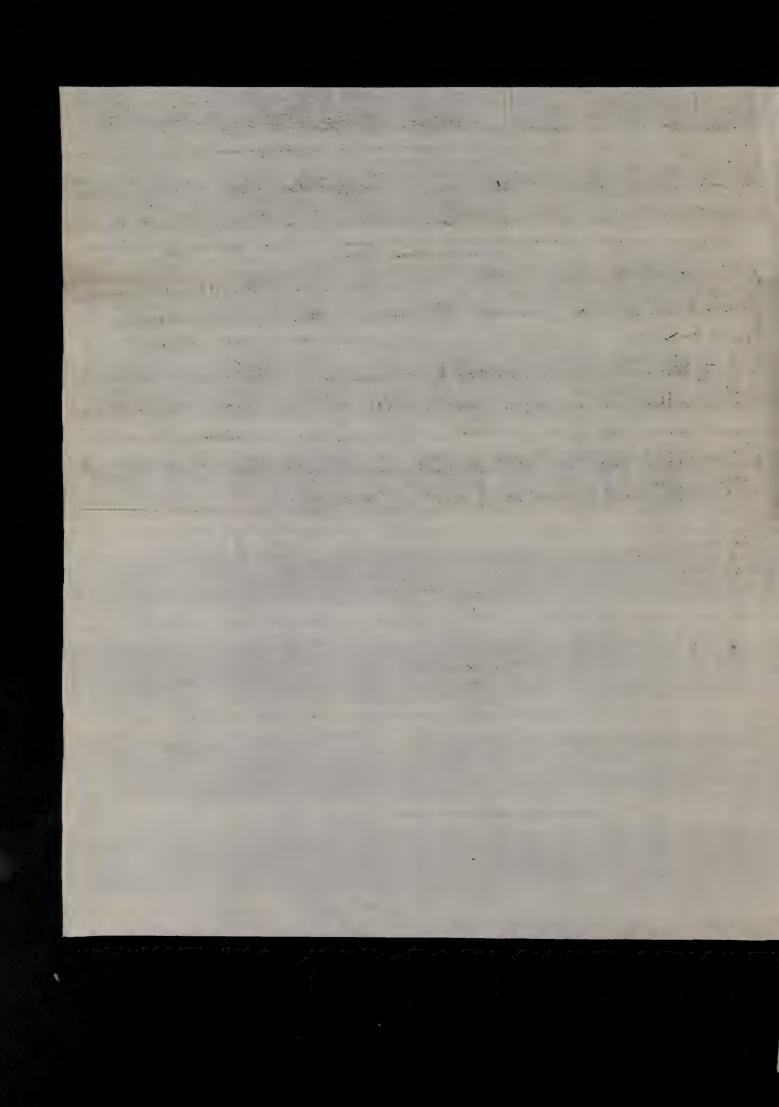
And also for that whereas one facob Seckins before , at the line of issuing the letter fatont hoursten mentioned had describered y invented a new y unful improvement in Jumpes which is described I set forth in the believe fratent of whences by certain believes portent duly ifs were in the name of the United States of America by the Secretary of State bearing less to by the President of the United States V dated the liverty third day of March dD. sighteen hundred I therteen I in Court to be produced was granted to one Jacob Sections his heir of afsigns for the speace of fourteen years from the said date the full I exclusive eight I liberty of making constitue ting using I vending to others to be used a new I uneful improvement in primps agreeably to a Statute of the Conques of the United States made V. past the 21 th day of Sebruary It I 1998 entitled an act to promote the progress of useful arts of to repeat the act heretofore made for that purpose ? Soud Perkins afterwards our on the tens day of May & 1813 by his deed of that date duly executed and recorded in the office of the Suretary of State of it court to be fore _ duce granter borgainer sold afrigner V set over to sow Lowell his huis executors administrators & afrigars the aforesaid letter patent I all his the saw Perkins right title interest of property in the saw new of uneful invention of improvement - yet the sain Souries in rouse ignorant of the Premise. but contribung in the behalf to injune I from the saw Lowell of define line of the benefit of saw patent of invention of the afrigument thereof oftenow, vin or the fairt day of June last part of one diver other days V times be tween the aw first-day of fune of the day of the purchase of he will do without the consent of saw Perkins or Lowell a their afrigns make dovise I sele divers vis two humber frum walnes of pistons constructed in fact whom the

puncific of the improvement of som carking se -cum to him by saw letters patent as aforesaw of contrain to the form of the Statute aforesain

nu facet

Feled in East 21. May

Francis & Lowell of Boston in The Dist. of Map. Ots, Menho, filf is Winslow Lewis of s? Both, This Chandler, Deflet in a plea of the case for that &c. (see list) as for as Illaro ") - This actor was commenced at this present from And now the ? Lewis la. (Thear) by his atty Daniel Welster & George Fullion comes ac Tee Pleas Except rignotives some being thus joined, The cause after a full Leaning, is committed to a Juny suom accords to law to by the same Who, after reasing all matter & things cone g. The same return Their verdict therein upon oath, thatis to say (2. Verdickex cept signature) (& is therefore consider by the to. that the ! W. L. the Deflo necessen agt the ? F. C. L The fill Costs of mit Vaxed at \$53.57 Exon imes 27. May 18/7 Mary: Tit. Lewis



He Unded States of america

To all to whom there Letters Falous Shall come?

Milereas Junes Baker a citizen of the United States hath alleged that he has invented a new and useful improcement entitled the Elliptic Value pupplone which improvement he states has not been known or uset before his afefetivation hath made oath that In does verily believe that he is the true inventor or discoverer, of the said improvement hath haid into the treasury of the Mule & States the sum of Thirty Tollars delivered a receipt for the same and fresented a jutition to the secretary of Atute rignifring a desere of obtaining an exclusive property in the said improvement and praying that a Patent-may be granted for that purpose: These are therefore to grant according to Law to the said James Baker her heirs administrators or af Agns for the lerm of fourteen years from the number



day, of May, One thousand eight hundred and Hoenton the full and extuner right and leberte of making, constructing, wing, and vending to other. to be used the said improvement a description whereof is given in the words of the said James Makir humself in the Vehedule hereto annexed. and is made a part of there presents In testimong whereof I have earred then Letten to be made patent and the seal of the United States to be hereunito afficered. Gwen under my hand at the lety of Warhington the wenth day of May 1. 4. in the year of our Lord one thousand eight hundred and scoenten and of the independence of the United Hates of america the forty ferst. Junes Monroe Topard Rich acting Secretary of tale. tity of to ashingtow to with I do hereby Certify that the foregoing Letters Tales were delivered to me on the ninth day of May in the year of our Lord one thousand eight hundred and seventeen to be examined that I have examined the summe and find them conformable to law, and Ido hereby return the same to the Foretany of Hate within When days from the date aforeraid to wet on this north day of May in the year aforesoud Richard Kush titterney General of the Wruted Haty. The The dule referred to on then Letters talent and making part of the same containing a description in the words of the said Farnes Baller humself of her emprovement entitled the Ellephic Value Tumpe box," Hus improvement- conserts in the Thate of the box and structure and operation of the rule, whereby a larger papage for a fluid from the bot !on of the pump to and above the tifting love is



yeven and the effect of running the flued is produced more rapidly, with the application of the same hower in the same line, The box is made of copper or other metal or metallie confinition and is formed from a sec-Non of a hollow enfinder, ent at one end comewhat in the form of a mile. to get the edice of the form lake a hollow extender, whom length is equal teles thirdy of its dearnotes and beginning at offerede hours at one extremity thereof out the extender, from said fromts inwards at an angle of about 450 with the iver of the cylinder, until the rectional lines much, Werefi the interior, of the Box where there lines meet is a crop piece of the whole defuth I' the boxer at said fromto thus dividing the whole for ente leve equal fraits by a substantial partition wherein are made holes from top to bottom for the stafele rods in the effer, and stafele rods and value bold in the lower box which in the usual form pape through the same and are firmles, secured by nuts at the bottom on the superior sar face of the partition is cut a channel wherein the bather or the values is preped by, a plate in the low. er box', and the shoulder of the Statele rods in the upper low. The substance of the partition and of the pariphery of the box should be as thin as may be consistent with required Strength. The values are for med of a price of leather, in elliptic form secured to the partition at the conjugate or strorter axus the value, so that the teather, lays whom and cover both papages in the box' and extends over the edges thereof a quarter or half sinch as may be most con rement. To the under and the upper side, of each half are afficed a piece of cofiper or brags or other metal or composition of metals nearly as large as the orifice of the paper respectively, and placed on the reather and connected with each other by screws

hafring through each and the teather between

them we such manner that the leather of the

value comes in contact with the upper edge of the



box and thereby the value closes water tight waster tops whow the loc the watter of the value that projects bey and the box prevents the exaste of the fluid between the box and the sides of the bore or chamber of the frump io that when the tifling box arcends none of the fluid errors ather through or by the reder of the box and when we the act of descending the two parts of the value, rise or are thrown up to the center against the stafete rods and once the two papages or orifices of the box. The value of the lower box operating in the same manner opens on the lifting box a freeds and are closed as the lifting box descends. Reference is here by given to the models de routed with the department of State. The specific object for which a patent is obtained to the peculiar space here of the value or values and of the bose particularly that form of the box which keeping the valves up to that in operation they have but title movement to perform. In testimony that the above is a true specification of my said improvements I have here. to set my hand and seal the twenty fifth day of afret in the year of our Lord Eighteen hundred and seen doutrupes Sames Baller M Stevenson of Butow? teatter a Bricks of Horton) Attent mille non chi.

" Maken W.

To all to whom these Freets shall come greating Scirify that the following is a true copie, of a fating granted to Sucob Perkins for an improvement in furth, dated March 23° 1813. An lestimony, whereof Illichard Rush
acting Secretary of State of the United States

A have hereunto subscribed my vaine and can

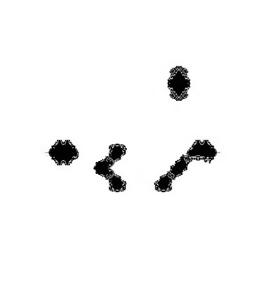
sed the seal of the Department of State to be
afficed. Done at the city of washington this 20 th day,
of Murch a O 1019
(Hichard Clush, The United States of america, To all to whom there tetten patent shall come, Whereas Jacob Tertlens a citizen of the United Fre hath



alleged that he has invented a new and useful unprovement in pumps which improvement he Males has not been Known or used before his application; hath made out that he does verily believe that he is the true inventor or discoverer of the said. Improvement hath haid anto the treasury of the line ted States the sum of thirty, Dollars, delivered a receipt for the same and presented a polition to the Scorelary of State rightfung a desire of obtaining an ex clusive property in the said improvement and pray my that a patent may be granted for that purpose There are Merefore to grant according to law to the said acob Gerken his heirs administrators or as sions for the term of fourteen years from the twenty third due March one Mourand eight hundred and Mirteen the full and exclusive right and liberty, of making constructing, wring and vending to other to be used the said improvement a description whereof is given in the words of the said Jacob Ferling humself, in the schedule hereto annexed and is made a part of these presents In Certinous, whereof these caused there letters to be made Palent and the seal of the United States to be hereunto afficied Given under my hand at the city Markinglow thy 23 day of March in the Year of our Gord one Thousand eight hundred and therton and of the indefundance of the Under States of asseriew the therty sweet Fames Madeson Gy The Fresedens James Mouroe Levelary of State, leby of washinglow Towel I do hereby Cerlify that the foregoing letters Patent were delivered to me on the 23 day of march in the year of our Lord one thousand aght hundred and Univer to be examined: that I have examined the



sume, and find them conformable to law, and I do hereby return the same to the Secretary of State within fifteen days from the date aforeraid to wit ou this 23° day of march in the year aforesaid. Milliam Retteney Actioner General of the united States The Schedule referred to in these Letters Falent and making part of the same containing a description in the words of the said Jacob Perkins himself ofhis improvement in Pumps. Recification of improvements in Ships Pumps one of which is so constructed as that the trunk and borces may be made out of the materials common by found on board Ships. The other is a combination of the ciphon and the common hump together with the tatteral effect of the water while paping the Ships sides when under way, ou the short legg the ciphou. The simple square pump the principal improvement of which is in the construction of the boxes, is made out of common boards leather and nails. The tube or trunk, which is square is first begun. by having four strips of board. properlyplaned and jointed and then nailed together, before the first covering of boards is nacled on, tarpalling should completely cover the two sides, where the joints are seen, Then another covering should be nailed wer the trunk, observing at the same time to break Sounds | well the trunk is sufficiently strong. to withstand the prefuse of the water. Three thick refer will answer for a pump of 6 inches dramles and five the chenefees for one of 8 inches deameter. The square, and of a some sufficiently, large to extend from one corner of the hump to the other, having obtone hercer of leather of about three times the length of the que pieces of board placed between them when they are firmly nailed together: at the same time basing





1/0 of the leather to nail on representely. the other two pieces of board, which form the valves and joints and are of an hocelus treangular form. This box when placed vertically in the pump will when the triangular valves ofen form a light box by falling into the angles of the kump which makes a bearing for the values each value having to open but 20 de green will work quicker than the common values The apper box the perton sod of which is made of a Ship of board sufficiently wide at the bottom to ex lend from one corner of the hump to the other has also an wocclus triangular value, ou each side and lifts the column of water in the same way that the lower box sufferts it. The cifetion fump is made in the following way. The body of this pumps made in the way that common ships pumper are made excepting that the lower box her quite at the bottom of the fump the upper box play uig as near its as possible, so that the ciption may enter the pump. as near above the supper box asit will work the cifehou which enters say two feet from the bottom of the pump and is of the same bore, rues parallel with the pump, until it meets the dick where it forms a right angle and with a gen the curve follows down the inside of the ship, where the water is delivered below the surface of the ocean The effect is that after the water has been raised saf ficiently high to charge the ciphou the water will face in the frimp until it is level with the surface of the ocean . The of course it will be necessary to raise the water but a tittle higher in the hump than the outside surface to make it work and should the vefel be under way the prepure will be parte ally taken of from the end of the short leg of the cifihou and the water will fall in the hump in proportion to the relocity with which the vepel sails

In some cases the water will only be raised from I to 3 feet in the pump, when without the ciphon

A Fred South South Eller. Ell. Milmbu Muum Mindow. it would be meethered to name it from is to be feel